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**MULTI-CHAMBER VENTRICULAR AUTOMATIC CAPTURE  
METHOD AND APPARATUS FOR MINIMIZING TRUE AND  
BLANKING PERIOD INDUCED VENTRICULAR UNDERSENSING**

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**ABSTRACT OF THE INVENTION**

An implantable cardiac stimulation device and associated method  
perform a true or blanking period ventricular undersensing detection  
10 algorithm in response to ventricular loss of capture not associated with  
fusion or a change in capture threshold. The test identifies an originating  
cause of loss of capture, which may be ventricular undersensing of  
intrinsic R-waves or premature ventricular contractions occurring during a  
ventricular blanking period or atrial undersensing of P-waves resulting in  
15 blanking period ventricular undersensing. A corrective action is taken to  
reduce the likelihood of blanking period ventricular undersensing by  
automatically adjusting device operating parameters. The corrective  
action may include automatic adjustment of atrial sensitivity, shortening of  
the ventricular blanking period, or adjustment of the base stimulation rate.  
20 Minimizing the blanking period ventricular undersensing improves device  
performance by avoiding back-up stimulation and minimizing the risk of  
pacemaker competition-induced arrhythmias.